



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,040	09/15/2003	Katsuyoshi Yamaguchi	03564/LH	1667
1933	7590	01/25/2005	EXAMINER	
FRISHAUF, HOLTZ, GOODMAN & CHICK, PC			LAVARIAS, ARNEL C	
767 THIRD AVENUE			ART UNIT	
25TH FLOOR			PAPER NUMBER	
NEW YORK, NY 10017-2023			2872	

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H-A

**Office Action Summary**

Application No.

10/663,040

Applicant(s)

YAMAGUCHI, KATSUYOSHI

Examiner

Arnel C. Lavarias

Art Unit

2872

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12/15/03, 9/15/03.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/15/03, 9/15/03 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/15/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

2. The drawings were received on 12/15/03 and 9/15/03. These drawings are objected to for the following reason(s) as set forth below.

3. The drawings are objected to because of the following informalities:

Figure 13- in the text for block #2-9, 'Parform' should read 'Perform'.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the

changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification. Examples of such errors are noted below.
5. The disclosure is objected to because of the following informalities:  
Page 14, line 25; Page 15, line 1- 'ROM 20-4' should read 'RAM 20-4'.  
Appropriate correction is required.

### *Claim Objections*

6. Claims 1-19 are objected to because of the following informalities:  
Claim 1 recites the limitation "the outside" in line 32. There is insufficient antecedent basis for this limitation in the claim. The Examiner has taken this to mean a location exterior to, and not part of, the microscope. Claims 2-19 are dependent on Claim 1, and hence inherit the deficiencies of Claim 1.  
Claim 9, line 4- 'lend' should read 'lens'  
Claim 18 recites the limitation "the external peripheral device" and "the external host device" in lines 4-5. There is insufficient antecedent basis for these limitations in the

Art Unit: 2872

claim. Claim 19 is dependent on Claim 18, and hence inherits the deficiencies of Claim 18.

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-2, 4-5, 7-8, 10, 12-15, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima (U.S. Patent No. 5703714) in view of Katsumata et al. (U.S. Patent Application Publication US 2002/0053639 A1).

Kojima discloses an electric optical microscope (See for example Figures 1, 27) comprising an illumination optical system which illuminates a sample with illumination light rays (See 1, 15 in Figure 1); an observation optical system which receives observation light rays from the sample and obtains an enlarged image of the sample (See 13, 14 in Figure 1); a plurality of optical elements which realize a plurality of observation methods with respect to the sample by being selectively arranged on respective optical paths of the illumination optical system and the observation optical system (See various optics and elements in Figures 1, 27); an operation portion having arranged thereto a plurality of operation input ends used to indicate any one of a plurality of the observation methods (See 30 in Figure 1; 101, 102 in Figures 3, 4; Figures 9-12; Figure 37); a storage

portion which allocates operation input allocation information indicative of the optical elements selected in accordance with a plurality of the observation methods and arrangement states of the optical elements on the respective optical paths of the illumination optical system and the observation optical system to a plurality of the operation input ends, and stores it therein (See Figures 3-4, 9-10; col. 6, line 1-col. 8, line 53); a control portion which reads the operation input allocation information allocated to the operation portion from the storage portion upon detecting an operation to the operation input end, and arranges the optical elements on the respective optical paths of the observation optical system and the illumination optical system accordance with the operation input allocation information (See 30 in Figures 1, 3; 45 in Figure 2; 45-M in Figure 3; Figure 9; col. 8, line 42-col. 16, line 55); and an information setting portion which fetches the operation input allocation information, allocates the fetched operation input allocation information to any one of a plurality of the operation input ends, and stores it in the storage portion (See 30 in Figures 1, 3; 45-M in Figure 3; col. 6, line 1-col. 8, line 53). Kojima additionally discloses the plurality of observation methods and the operation input allocation information stored in the storage portion being at least a bright field observation method, a dark field observation method, a differential interference observation method, a phase difference interference observation method, a fluorescent observation method, and a composite observation method which is a combination of the respective observation methods (See col. 1, lines 15-42; col. 7, lines 1-14); a plurality of the optical elements are at least a permeation filter, a condenser lens, an object lens, a cube cassette having plurality of filter cubes attached thereto which constitute the

observation optical system (See 3, 6, 7, 11 in Figure 1), and they are at least a permeation illumination source, a permeation aperture diaphragm, a reflected illumination light source which constitute the illumination optical system (See 1, 3, 4, 15, 16 in Figure 1); the plurality of operation input ends are operation button switches (See for example 311, 312, 313, 314, 315 in Figure 10); the operation portion has a display portion which displays the arrangement states of the optical elements (See 101, 102 in Figure 3; Figures 5, 10-12); the storage portion being a non-volatile memory (See 46, 47 in Figure 2; 46-M, 47-M, 100 in Figure 3); the operation input allocation information consists of a plurality of sets of allocation information, the plurality of sets of allocation information being allocated to a plurality of the operation input ends and stored, and are indicative of arrangement states of the plurality of optical elements on the respective optical paths of the observation optical system and the illumination optical system according to a plurality of the observation methods (See Figures 9-10, 13-15; col. 7, line 47-col. 16, line 55); the plurality of sets of the allocation information indicate arrangement states of the permeation filter, condenser lens, object lens, cube cassette, permeation illumination light source, permeation aperture diaphragm, and reflected illumination light source (See Figures 9-10, 13-15; col. 7, line 47-col. 16, line 55) based on the above methods; the storage portion can add, change, and delete a plurality of sets of the allocation information (See Figures 9-10, 13-15; col. 7, line 47-col. 16, line 55); and upon detecting an operation to the operation input end, the control portion reads the operation input allocation information allocated to the manipulated operation input end from the storage portion, and executes a program having described therein a command to arrange the

optical elements on the respective optical paths of the observation optical system and the illumination optical system in accordance with the operation input allocation information (See Figures 9-10, 13-15; col. 7, line 47-col. 16, line 55). Kojima lacks the information setting portion fetching the operation input allocation information from outside, such as from an external host computer, through a communication line, wherein the control portion exchanges information with an external host through the communication line. However, Katsumata et al. teaches a microscope system (See for example Figures 1-2), wherein the various optical elements and components may be moved into and out of the optical beam path via control signals provided from a host computer external to and connected to the microscope via a bus line (See 100, 14, 15, 39 in Figures 1-2; Paragraph 0073-0092; 0099-0101). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the information setting portion fetch the operation input allocation information from outside through a communication line, e.g. an external host computer via a bus line, wherein the control portion exchanges information with an external host through the communication line, as taught by Katsumata et al., in the electric optical microscope of Kojima, to provide remote access and operation of the microscope.

9. Claims 3, 6, 9, 11, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima in view of Katsumata et al. as applied to Claims 1, 8 above, and further in view of Yamaguchi et al. (U.S. Patent Application Publication US 2002/0097486 A1).



Kojima in view of Katsumata et al. discloses the invention as set forth above in Claims 1, 8, except for the illumination optical system including a permeation filter turret and a reflected filter turret. However, the use of such filter turrets in conventional optical microscopes is known in the art. For example, Yamaguchi et al. teaches a microscope optical system (See for example Figure 1), wherein the various optical elements and components are movable into and out of the beam path. Additionally, the illumination optical system of the microscope includes a permeation filter turret (See 4 in Figure 1) and a reflected filter turret (See 16 in Figure 1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the illumination optical system of the microscope system of Kojima in view of Katsumata et al., further include a permeation filter turret and a reflected filter turret, as taught by Yamaguchi et al., to simplify moving and remotely control multiple filters into and out of the optical beam path of the microscope system.

10. Claims 16-19, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima in view of Katsumata et al. as applied to Claim 1 above, and further in view of Li et al. (U.S. Patent No. 6259080).

Kojima in view of Katsumata et al. discloses the invention as set forth above in Claim 1. Kojima in view of Katsumata et al. further discloses an external peripheral device, such as a high speed shutter system (See 17, 36, 37 in Figure 1 of Kojima; 25, 39, 42 in Figure 2 of Katsumata et al.) that opens and closes a shutter relative to the optical path of the illumination optical system, and the storage portion allocating information to perform an operation control over the external peripheral device, fetched from the external

Art Unit: 2872

peripheral device through a communications line, to any one of a plurality of operation input ends, and stores it therein (See Figures 7-8; Paragraph 0086, 0091-0094, 0099-0109 of Katsumata et al.). Kojima in view of Katsumata et al. lacks one or more external peripheral device, at least one specifically being attached to an electric optical microscope main body. However, Li et al. teaches a conventional microscope system (See for example Figure 6), which includes a conventional shutter system (See 33, 45 in Figure 6), wherein the shutter is attached to the main body of the microscope, and the shutter control is attached to the shutter (See 33, 45 in Figure 6). Both Katsumata et al. and Li et al. further teach that other peripheral devices may be attached to the microscope, such peripheral devices including the shutter system and a camera imaging system (See 38, 39 in Figure 6 of Li et al.; 36, 37, 38 in Figure 2 of Katsumata et al.). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have one or more external peripheral device, e.g. a shutter system, specifically be attached to an electric optical microscope main body, as taught by Li et al. and Katsumata et al., in the microscope of Kojima in view of Katsumata et al., to 1) take advantage of the rigidity and stability provided by the microscope body, thus enhancing repeatability of the opening and closing action of the shutter element, and 2) take advantage of the additional functions and time reduction/savings by having the additional peripheral devices already attached to the microscope.

Art Unit: 2872

*Conclusion*

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnel C. Lavarias whose telephone number is 571-272-2315. The examiner can normally be reached on M-F 8:30 AM - 5 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Arnel C. Lavarias  
Patent Examiner  
Group Art Unit 2872  
1/19/05